

## OPINION 1298

TYROPHAGUS OUDEMANS, 1924 (ACARINA): CLARIFICATION  
OF NAME OF TYPE SPECIES AND CONSERVATION

RULING.—(1) Under the plenary powers, the specific name *dimidiatus* Hermann, 1804, as published in the binomen *Acarus dimidiatus*, is hereby suppressed for the purposes of the Principle of Priority but not for those of the Principle of Homonymy.

(2) The generic name *Tyrophagus* Oudemans, 1924 (gender: masculine), type species, by original designation, *Acarus putrescentiae* Schrank, 1781, is hereby placed on the Official List of Generic Names in Zoology with the Name Number 2236.

(3) The following specific names are hereby placed on the Official List of Specific Names in Zoology with the Name Numbers specified:

(a) *putrescentiae* Schrank, 1781, as published in the binomen *Acarus putrescentiae* (specific name of type species of *Tyrophagus* Oudemans, 1924) as interpreted by the neotype designated by Robertson, 1959 (Name Number 2929);

(b) *longior* Gervais, 1844, as published in the binomen *Tyroglyphus longior*, and as interpreted by the neotype designated by Robertson, 1959 (Name Number 2930).

(4) The family-group name TYROPHAGIDAE Oudemans, 1924 (type genus *Tyrophagus* Oudemans, 1924) is hereby placed on the Official List of Family-Group Names in Zoology with the Name Number 565.

(5) The specific name *dimidiatus* Hermann, 1804, as published in the binomen *Acarus dimidiatus*, and as suppressed under the plenary powers in (1) above, is hereby placed on the Official Index of Rejected and Invalid Specific Names in Zoology with the Name Number 1139.

## HISTORY OF THE CASE Z.N.(S.)1450

An application for the specific name *dimidiatus* Hermann, 1804, as published in the binomen *Acarus dimidiatus*, to be declared a nomen dubium was first received from Dr Phyllis L. Robertson (now of the *University of New South Wales*) on 18 February 1960. For reasons that cannot now be known this was not then published. A revised application was eventually sent to the printer on 12 August 1980 and published on 30 April 1981 in *Bull. zool. Nom.* vol. 38, pp. 125–129. Public notice of the possible use of the plenary powers in the case was given in the same part of the *Bulletin* as well as to the statutory serials, to seven general periodicals, eight entomological periodicals and one acarological periodical. No comment was received prior to the voting.

## DECISION OF THE COMMISSION

On 13 June 1984 the members of the Commission were invited to vote under the Three-Month Rule on Voting Paper (1984)23 for or against the proposals set out in *Bull. zool. Nom.* vol. 38, pp. 128–129. At the close of the voting period on 13 September 1984 the state of the voting was as follows:

Affirmative Votes—fifteen (15) received in the following order: Melville, Mroczkowski, Cocks, Schuster, Savage, Heppell (in part), Binder, Starobogatov, Sabrosky, Trjapitzin, Uéno, Hahn, Kraus, Brinck, Corliss

Negative Votes—two (2): Holthuis, Heppell (in part).

Alvarado, Bayer, Bernardi, Halvorsen and Ride were on leave of absence. No votes were returned by Cogger, Dupuis, Lehtinen and Willink.

Heppell voted for all the proposals except the one to place the family-group name TYROPHAGIDAE on the Official List. He said: 'There is no discussion of the family name in the application and there is no requirement for the Commission to consider its validity. In a case where there have been no comments from zoologists it seems to me wrong to take any action concerning a family name when there are no nomenclatural reasons for so doing.'

Holthuis commented: 'My negative vote concerns the use of the plenary powers to suppress *Acarus dimidiatus* Hermann, 1804. If a neotype can be chosen for the dubious species *A. putrescentiae*, why not for *A. dimidiatus*? The choice of neotype could either make *A. dimidiatus* a junior synonym (when it can be eliminated) or link it to a specimen of the taxon for which it is not used. The applicant gives very little information on present usage of the name. In Hughes, 1961, *The Mites of Stored Food, Tech. Bull. 9, Min. Ag. Fish. Food, London*) both *Tyrophagus dimidiatus* (Hermann) and *T. longior* (Gervais) are recognised. One solution would be to choose as neotype a specimen of the species for which Hughes used the name. In any case it seems better to postpone any action in connexion with the name until acarologists decide which species would best bear the name. It is regrettable that no comments have been received from acarologists. Dr L. van der Hammen, the acarologist at the Leiden Museum, though not a specialist in this group, said that he could see no need to suppress the name so long as there are different opinions as to its identity.'

Dr Robertson replied as follows: 'It is important to bear in mind not only that Oudemans erected the genus *Tyrophagus*, but also that he was the first to refer *A. dimidiatus* Hermann to it. Thus action to deal with *dimidiatus* should most reasonably be approached in terms of the concept held by Oudemans.

It is suggested that a neotype be designated for *dimidiatus*. But Oudemans used the name for the species that currently has worldwide acceptance as *Tyrophagus longior* (Gervais, 1844), one of the most widespread and best known of the stored-product *Tyrophagus* species. A neotype for *dimidiatus* from Oudemans' material would thus lead to the

relegation of *longior* as a junior synonym and so regenerate, rather than resolve, the many years of nomenclatural confusion in *Tyrophagus*.

'It is further suggested that a neotype be designated from Mrs Hughes' 1961 material. But this would be to ignore the fact that that material is in strong disagreement with Hermann's original description: it lacks chelicerae of a type "which are not articulated at all as in other mites"; its hysterosoma is not spherical, it is not divided by a transverse suture, and it does not have yellowish-green and white coloration. Moreover, it has not been found, either by Mrs Hughes or apparently by other present-day acarologists, in Hermann's original habitat — moss.

'It may be added that Hermann's description appears to be applicable more to one of the primitive moss mites than to a *Tyrophagus*. That is, it may have been an oribatid — a member, say, of Tragardh's (1932) Palaeacariformes, currently Palaeacaroida, a group not recognised at the time of Oudemans' 1924 work.

'It is suggested that designating a neotype for *putrescentiae* (the type species of *Tyrophagus*) itself furnishes grounds for doing the same for *dimidiatus*. But the situations regarding the two are completely different. Morphological features clearly defined by Hermann concerning the form of the chelicerae, and the shape, suturing and coloration of the hysterosoma, debar *dimidiatus* from being accepted as a species of *Tyrophagus*. But there are no such characters debaring *putrescentiae* from such acceptance. Further, Oudemans was unable to find a *Tyrophagus* in the habitat — moss — of Hermann's species, while he did find his *putrescentiae* in Schrank's original habitat.

'It should be emphasised that the *Tyrophagus* problem concerning *dimidiatus* is not centred essentially on acarologists being unable to agree between themselves on which species should bear the name. Rather it is agreed that *dimidiatus* should not have been introduced into the genus in the first place (see Johnston & Bruce, 1965, *Ohio Agric. R & D Center, Research Bull.* 977). Hermann originally described characters that exclude it from recognition as any species of *Tyrophagus* at all.

'Any uncertainty as to the *Tyrophagus* species to which the name *dimidiatus* might conceivably be applied has been a personal problem for each individual acarologist who attempted to use the name. For example, Oudemans himself demonstrated uncertainty when he first used *dimidiatus* for the species that he later called *australasiae*, and then by transferring it to the species now accepted as *longior*. In 1948 Mrs Hughes used *tenuiclavus* for the species she accepted as *longior* in 1961; in 1957 she used *dimidiatus* for this species, but transferred that name to a completely different species in 1961. None of these determinations appears to be related in any way to the characteristics of the species originally described by Hermann.

'Such uncertainty and doubt in the views of individual acarologists lends support to the application to suppress *dimidiatus* as a threat to stability of nomenclature. This would formalise the results of the intensive basic research already done on *Tyrophagus* by a number of workers and

which is unlikely to be repeated. It would bring to *Tyrophagus* nomenclature a much-needed stability in the long term, facilitating the continuing build-up of knowledge of this worldwide but extremely difficult genus.' Dr Holthuis later withdrew his objection. Dr Robertson's application was then supported by Professor J. G. Rodriguez (*University of Kentucky College of Agriculture*).

#### ORIGINAL REFERENCES

The following are the original references for the names placed on Official Lists and an Official Index by the ruling given in the present Opinion:

- dimidiatus*, Acarus, Hermann, 1804, *Mem. Apter.*, p. 85, pl. 6, fig. 4  
*longior*, Tyroglyphus, Gervais, 1844, *Hist. nat. Ins. (Aptères)*, vol. 3, p. 262, pl. 35, fig. 5  
*putrescentiae*, Acarus, Schrank, 1781, *Enum. Ins. Austriae indig.*, p. 521  
TYROPHAGIDAE Oudemans, 1924, *Entomol. Ber. Amsterdam*, vol. 6, pp. 203, 207  
*Tyrophagus* Oudemans, 1924, *Entomol. Ber. Amsterdam*, vol. 6, p. 250.

#### CERTIFICATE

I hereby certify that the votes cast on V.P.(84)23 were cast as set out above, that the proposal contained in that voting paper has been duly adopted under the plenary powers, and that the decision so taken, being the decision of the International Commission on Zoological Nomenclature, is truly recorded in the present Opinion No. 1298.

R. V. MELVILLE

*Secretary*

*International Commission on Zoological Nomenclature*

*London*

*4 October 1984*